

What is claimed is:

1. A coupling assembly for releasably interconnecting confronting ends of first and second fluid carrying conduit members wherein each has an annular flange fixedly attached to each of the confronting ends, said coupling assembly comprising:

a sleeve for circumferentially surrounding the flanges;

5 a pair of arcuate coupling halves pivotally joined at first adjacent ends for circumferentially surrounding said sleeve, each coupling half further having a web section, opposing transverse edges and a second end;

at least one bonding wire externally mounted to one of said coupling halves, said bonding wire having free ends secured to the coupling half proximate said first adjacent ends, 10 said bonding wire extending around both said transverse edges of said coupling half and said bonding wire spanning said web;

at least a pair of engagement members, one engagement member of said pair of engagement members being mounted externally to each said second end of said coupling halves;

15 means mounted on each coupling half for securing said engagement members to their respective coupling halves; and

means incorporated on each coupling half for biasing a corresponding engagement member, wherein said coupling halves are rotated to circumferentially surround said sleeve, and said engagement members are placed to engage said means for securing thereby placing 20 said coupling assembly in a locked position. -

2. A coupling assembly, as claimed in claim 1, wherein:

said means for securing includes a pair of support bars, one support bar being mounted on each second end of said pair of coupling halves, and each said support bars extending longitudinally across said web section.

3. A coupling assembly, as claimed in claim 1, wherein:

each said engagement member includes a first end rotatably mounted to said means for securing and a second end including a locking groove which engages said means for securing when said coupling assembly is in the locked position.

4. A coupling assembly, as claimed in claim 3, wherein:

each said engagement member further includes a cam portion which contacts said means for securing as said coupling halves are rotated to place the coupling assembly in the locked position.

5. A coupling assembly, as claimed in claim 1, wherein:

each coupling half includes a pair of annular ribs proximate said transverse edges thereby defining a pair of grooves for receiving corresponding portions of said bonding wire therein.

6. A coupling assembly, as claimed in claim 1, wherein:

said biasing means includes at least one spring finger which attaches to a corresponding engagement member and biases said engagement member for rotation about said means for securing.

7. A coupling assembly, as claimed in claim 1, wherein:

each coupling half includes a hinge section attached at said first end thereof, and said hinge section further includes a curved projection integral with said hinge section for receiving and securing one free end of said bonding wire.

8. A coupling assembly, as claimed in claim 1, wherein:

said coupling assembly is coated with an electrically conductive coating.

9. A coupling assembly, as claimed in claim 7, wherein:

each said hinge section is externally mounted to said coupling halves.

10. In combination with a pair of fluid carrying conduit members, a coupling assembly for releasably securing confronting ends of the conduit members, said combination comprising:

a sleeve for circumferentially surrounding and sealing said confronting ends therein;

5 a pair of arcuate coupling halves pivotally joined at first adjacent ends, said coupling halves each having opposing transverse edges and second ends;

a pair of bonding wires, one bonding wire mounted to each coupling half, each bonding wire traversing along each transverse edge so to make a contact at multiple points along said confronting ends of the conduit members, and each said bonding wire spanning
10 its corresponding coupling half thereby forming a continuous conductive path across said coupling;

at least a pair of engagement members rotatably mounted to corresponding support bars secured proximate said second ends of said coupling halves; and

a spring member attached to each engagement member for providing a biasing force
15 to resist rotation of each engagement member about its corresponding support bar, wherein said coupling halves are rotated to circumferentially surround said sleeve, and said engagement members are placed to engage the support bar on the opposing coupling half thereby placing said coupling in a locked position.

11. The combination, as claimed in claim 10, wherein:

each engagement member further includes a locking groove formed thereon which receives the support bar when the coupling is in the locked position.

12. The combination, as claimed in claim 10, wherein:

each engagement member further includes a cam portion which contacts the support bar as the coupling halves are rotated to place the coupling in the locked position.

13. The combination, as claimed in claim 10, wherein:

each coupling half includes a pair of annular ribs proximate said transverse edges defining a pair of grooves for receiving corresponding portions of said bonding wire therein.

14. The combination, as claimed in claim 10, wherein:

each coupling half includes a hinge section attached at said first end thereof, and said hinge section further includes an integral curved projection for receiving and securing one free end of said bonding wire.

15. A coupling assembly, as claimed in claim 10, wherein:

said coupling halves are coated with an electrically conductive coating.

16. A method of releasably interconnecting confronting ends of first and second fluid carrying conduit members wherein an annular flange is attached to each of the confronting ends and has a sealing ring therearound, a sleeve circumferentially surrounding the sealing rings, and a pair of symmetrical arcuate coupling halves pivotally joined together at first adjacent ends and being rotatable to surround said sleeve and flanges to bring second ends of said coupling halves to a locking position wherein each second end of each coupling half includes at least one engagement member rotatably mounted over an opposed support bar and said engagement member being biased to resist rotation about the opposed support bar, said method comprising the steps of:

10 rotating the second ends of the coupling halves together;

contacting each engagement member against an opposing support bar of the other coupling half;

further rotating the second ends of the coupling halves together to overcome the biasing forces placed on each engagement member; and

15 engaging the support bars within locking grooves of each of the engagement members thereby placing the coupling in a locked position.

17. A method, as claimed in claim 16, further including the step of:

securing a pair of bonding wires to the coupling halves, each bonding wire extending around opposing transverse edges of each of the coupling halves such that the bonding wires are placed in contact with metallic portions of the fluid carrying conduits, and each bonding

- 5 wire bridging its corresponding coupling half thereby creating an electrical path joining the fluid carrying conduits.

18. A coupling assembly for releasably interconnecting confronting ends of first and second fluid carrying conduit members wherein each conduit member has an annular flange fixedly attached to each of the confronting ends, said coupling assembly comprising:

a sleeve for circumferentially surrounding the flanges;

5 a pair of arcuate coupling halves pivotally joined at first adjacent ends for circumferentially surrounding said sleeve, each coupling half further having a webbed section, opposing transverse edges, and a second end;

means for creating an electrically conductive path across the coupling assembly, said means for creating being externally mounted to at least one of said coupling halves, said

10 means for creating extending around both said transverse edges of the at least one coupling half, and said means for creating spanning across said webbed section;

at least a pair of biased engagement members, one engagement member of said at least a pair of engagement members being mounted externally to each said second end of said coupling halves, said engagement members being positionable in a locked position thereby

15 securing the confronting ends of the fluid carrying conduit members.

19. A coupling assembly for releasably interconnecting confronting ends of first and second fluid carrying conduit members wherein each conduit member has an annular flange fixedly attached to each of the confronting ends, said coupling assembly comprising:

means for sealing the flanges in the coupling assembly, said means for sealing
5 circumferentially surrounding the flanges;

a pair of arcuate coupling halves pivotally joined at first adjacent ends for circumferentially surrounding said means for sealing, each coupling half further having a web, opposing transverse edges, and a second end;

means for creating an electrically conductive path across the coupling assembly, said

10 means for creating being externally mounted to at least one of said coupling halves, said means for creating extending around both said transverse edges of the at least one coupling half, and said means for creating spanning across said web;

at least a pair of biased engagement members, one engagement member of said at least a pair of engagement members being mounted externally to each said second end of said
15 coupling halves, said engagement members being positionable in a locked position thereby securing the confronting ends of the fluid carrying conduit members.

20. A coupling assembly for releasably interconnecting confronting ends of first and second fluid carrying conduit members said coupling assembly comprising:

a sleeve;

5 a pair of arcuate coupling halves pivotally joined at first adjacent ends for circumferentially surrounding said sleeve, each coupling half further having a web section, opposing transverse edges and a second end;

at least one bonding wire externally mounted to one of said coupling halves, said bonding wire having free ends secured to the coupling half proximate said first adjacent ends, said bonding wire extending around both said transverse edges of said coupling half and said
10 bonding wire spanning said web;

at least a pair of engagement members, one engagement member of said pair of engagement members mounted externally to each said second end of said coupling halves; and

means incorporated on each coupling half for biasing a corresponding engagement
15 member, wherein said coupling halves are rotated to circumferentially surround said sleeve, and said engagement members are placed in an engaging position thereby placing said coupling assembly in a locked position.

21. A coupling assembly for releasably interconnecting confronting ends of first and second fluid carrying conduit members said coupling assembly comprising:

means for sealing the confronting ends in the coupling assembly, said means for sealing circumferentially surrounding the confronting ends;

a pair of arcuate coupling halves pivotally joined at first adjacent ends for circumferentially surrounding said means for sealing, each coupling half further having opposing transverse edges and a second end;

means for creating an electrically conductive path across the coupling assembly, said means for creating being externally mounted to at least one of said coupling halves, said means for creating extending around both said transverse edges of the at least one coupling half;

at least a pair of biased engagement members, one engagement member of said at least a pair of engagement members being mounted externally to each said second end of said coupling halves, said engagement members being positionable in a locked position thereby securing the confronting ends of the fluid carrying conduit members.